

REMARKS

Claims 19-27 and 66-77 are now pending. Claims 1-18 and 28-65 have been cancelled. Claim 19 has been amended to recite “resetting a charge collection region with the reset transistor during a reset period,” which was presented in the original claim 19 as well as the original claim 65. Claims 21, 66 and 68 have been amended to remove informalities without changing the scope of any of the claims or any claim element in the claims. Claims 73-77 have been withdrawn from further consideration. Applicant reserves the right to pursue the original claims and other claims in this and other patent applications. Reconsideration and withdrawal of outstanding rejections are respectfully requested in light of the foregoing claim amendments and the following remarks.

First, applicant respectfully submits that the finality of the Office Action should be withdrawn. Claim 65 was first presented in the previous Amendment to have substantially the same scope as that of the original independent claim 19. Original claim 19 was rejected in the prior Action based on Pain and Rhode, whereas claim 65 is rejected in the current Action based on an additional new reference (i.e., Ishida). Applicant respectfully submits that the difference between original claims 19 and 65 is of formal nature and does not necessitate the new ground of rejection based on the new reference. Therefore, the finality of the current Office Action is not proper and should be withdrawn.

Claim 68 stands rejected under 35 U.S.C. § 112 for the informality stated on page 3 of the Office Action. The subject rejection has been overcome in view of the above claim amendment.

Claims 19-27, 67 and 69-72 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,326,230 to Pain et al. in view of U.S. Patent No. 6,140,630 to Rhodes et al. The rejection is respectfully traversed.

Independent claim 19 has been amended to recites “resetting a charge collection region with a reset transistor during a reset period,” which was presented in the original independent claim 19 and in dependent claim 65 previously added. Additionally, independent claim 19 recites removing residual charge remaining in the photoconversion device by “activating said reset transistor and said transfer transistor.” According to such features of the claimed invention, the reset transistor is used to reset the charge collection region and to remove residual charge in the photoconversion device. Applicant respectfully submits that the claimed invention patentably distinguishes over the prior art references.

The Office Action acknowledges that neither Pain nor Rhodes teaches the features in claim 65, *i.e.*, “resetting said charge collection region with said reset transistor during a reset period” (see rejection of claim 65 on page 7 of Office Action). Also, as the previous Action suggested, the sense node (54, 154) in Pain is reset by a reset gate (74, 174) controlled by a signal (RST) (also see, col. 5, ll. 5-8 and col. 7, ll. 38-41). On the other hand, Pain discloses transferring additional photocharges in the photoactive region to a power supply node (see, col. 3, ll. 5-7). As is suggested in the current Office Action, such transfer is carried out by activating a transfer gate (62) controlled by a signal (TX2) (see, page 4 of Office Action and col. 4, ll. 55-57 of Pain). The transfer gate (62) in Pain, even if taken as a reset transistor as alleged in the Office Action, is not used to reset the sense node.

Therefore, Pain does not disclose using the same reset transistor to reset the charge collection region and to remove residual charge remaining in the photoconversion device as recited in independent claim 19. Independent claim 19 thus patentably distinguishes over Pain and Rhodes.

Applicant respectfully submits that independent claim 19 also patentably distinguishes over Pain and Rhodes even in view of Ishida as the Office Action applied in rejecting claim 65. Ishida in the cited portions discloses that, at t10, the reset transistor QRSG is turned on and the constant voltage VGH is applied to the reset drain of the reset transistor QRSG (see, col. 37, ll. 25-34). However, the cited portions of Ishida do not disclose removing residual charge remaining in the photoconversion device, much less doing so using the same reset transistor as recited in independent claim 19. Accordingly, independent claim 19 is allowable over Pain, Rhodes, and Ishida.

Claims 20-27, 67 and 69-72 depend from independent claim 19 and therefore should be similarly allowable for at least the reasons provided above with regard to claim 19, and on their own merits. In view of the above, the subject rejection with respect to claims 19-27, 67 and 69-72 has been overcome.

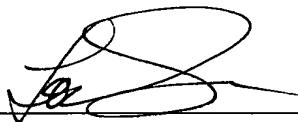
Claims 65-66 and 68 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Pain and Rhodes as applied to claim 19 above, and further in view of U.S. Patent No. 6,046,466 to Ishida et al.

To advance the allowance of the subject application, applicant has canceled claim 65 and incorporated its features into independent claim 19. The rejection of claim 65 is thus moot. Claims 66 and 68, now depending from independent claim 19, should be similarly allowable for at least the reasons provided above with regard to claim 19, and on their own merits. Ishida adds nothing to rectify the deficiencies associated with Pain and Rhodes. Thus, the subject rejection has been overcome.

Applicant has shown that claims 19-27 and 66-77 are allowable over the cited art and hereby respectfully requests that the rejections of the pending claims be withdrawn. Each of the claims 19-27 and 66-77 in this application is believed to be in immediate condition for allowance and favorable action on the application is solicited.

Respectfully submitted,

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